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DECEMBER 1991

The jet stream split over the western U.S. in early December. The northern branch was the stronger and brought sustained snowfall all month to Alaska and British Columbia. For example, Alyeska, AK recorded snow on 25 of 31 days and finished the month with 195% of normal. On the 16th, 26" of snow fell and triggered an avalanche cycle in the Alyeska and Seward Highway area. More on this later. Eaglecrest, AK recorded snowfall every day from the 4th-26th.

The southern branch of the jet brought a series of closed lows across Arizona and New Mexico and ultimately caused record flooding in Texas. These storms brought enough snow for Taos, NM to achieve 90% of normal.

The majority of the West languished under perpetual high pressure and dashed hopes for the continued generous snows of November. In the Cascades, Crystal Mt., WA recorded 42% of normal; Mt. Hood Meadows, OR, 47%; and Mt. Rainier, WA, boosted by 26 days of measurable snowfall, 71%. The largest storm brought 65" to Mt. Rainier and Stevens Pass, WA on the 6th-13th.

In the Sierra of California, Mammoth Mt. got 58% of normal; Alpine Meadows, 54%; and Squaw Valley, 43%. In the Intermountain region, Sun Valley, ID got 53%; Big Sky and Bridger Bowl, MT, both 60%; Jackson Hole, WY, 79%; but Teton Pass, WY, just a few miles away, only 27%. Snowbird, UT reported 41% of normal snows, and recorded a wind gust to 113 mph on the 13th.

In Colorado, the San Juan Mts got the most snow: Wolf Creek, 70%; Red Mt. Pass, 62%; and Purgatory and Telluride, 50%. Elsewhere, all other sites ranged from 18-34% of normal, but Breckenridge managed only 10%.

The only notable avalanche cycle hit southcentral Alaska on the 16th-17th. Alyeska reported 15 controlled and natural avalanches on the 16th, some falling 2,000 feet vertical. The Seward Highway was raked by both natural and artillery-released avalanches. At mile 34, the road was buried for the first time since 1980. At Summit Lake, 120 feet of guard rail was damaged by an avalanche. At Moose Pass, an avalanche path ran longer than anytime since 1910 and caused \$40,000 damage to a powerline.

Elsewhere around the West, seven separate avalanche incidents resulted in 7 people caught, 2 partly buried, and 1 injured. The injury occurred to a snowmobiler who triggered a slide on the 7th on Lion Head Mt., near West Yellowstone, MT. Through December, 22 incidents have resulted in 19 people caught, 6 partly buried, 1 buried, and 3 injured.

DECEMBER 1991 SUMMARY OF WEATHER AND SNOW CONDITIONS

The second section of the second section of the second section of the second section of the second section sec	SNOWFALL	WATER EQUIVALENT	SNOW DEPTH	TEMPERATURE	WIND SPEED AND DIRECTION					
AREA	MAX TOTAL IN D SNOW- 24 A FALL AVG HR. T IN. DEN IN. E	TOTAL 24 A OF DAYS WATER HR. T GE GE GE GE IN. IN. E .1 .2 .5 1.0	MAX T MIN AVG		AVG 6 HOUR D					
CENTRAL AND SOUTHERN F	ROCKY MOUNTAINS	,	i	`						
ARAPAHOE BASIN, COLO ASPEN HIGHLANDS, CO ASPEN MOUNTAIN, COLO BEAR LAKE, RMNP, CO BEAVER CREEK, COLO BERTHOUD PASS, COLO COPPER MTN, COLO COPPER MTN, COLO COPPER MTN, COLO MONARCH, COLO POWDERHORN, COLO PURGATORY, COLO RED MTN PASS U.S.550 SUNLIGHT, COLO TELLURIDE, COLO VAIL, COLO WINTER PARK S.A., CO WINTER PARK 1E, COLO WOLF CREEK, COLO	11.3 .10 3 12 7.7 2 11 8.4 .04 4 13 12.5 .08 2 11 13.1 .07 5 13 6.3 .10 2 14 8.7 .09 2 12 15.0 .09 5 19 19.1 .06 7 19 14.0 .06 3 3 16.1 6 19 26.0 .08 8 19 28.5 .08 7 19 13.5 .05 3 13 20.2 .07 5 31 14.5 .08 4 3 17.0 .04 7 3	1.12 .35 12 4 2 0 0 .37 .15 13 2 0 0 0 1.02 .25 20 5 2 0 0 .98 .25 13 5 2 0 0 .62 .23 14 3 2 0 0 1.40 .40 19 9 3 0 0 1.12 .36 12 3 2 0 0 .83 .15 12 4 0 0 0 .83 .15 12 4 0 0 0 .84 .15 12 4 0 0 0 .85 .15 12 4 0 0 0 .86 .15 19 4 0 0 0 1.48 .35 31 8 2 0 0 .70 .25 14 2 2 0 0 .71 .18 3 4 0 0 0	31 12 26 28 37 14 28 32 29 1 24 25 37 1 34 35 41 1 34 35 38 1 32 33 32 2 30 31 32 19 26 29 37 19 27 31 32 1 28 29 37 19 30 33 43 20 32 37 43 23 35 38 31 14 26 28 35 3 29 31 38 3 32 35 38 3 31 33 27 3 23 24	27.3 13.4 20.4 28.6 9.4 19.0 25.1 3.4 14.2 22.0 8.4 15.2 25.2M 7.9M 16.6M 25.2 12.3 18.7 27.42 13.6 25.4 11.5 18.4 29.2M 12.1M 20.6M 25.3M 9.7M 17.5M 30.5 10.4 20.4 27.0 13.5 20.2 27.4M 12.6M 20.0M 21.8M 10.7M 16.3M 19.6 8.7 14.2	3.3M OM OM 12 320 2 7.3 4 3 29 250 13 5.6M 4M 1M 25 270 13 12.6 37 14 38 350 13 15.7 57 28 74 230 3 11.9M 40M 14M 43 270 12 7.6M 8M 2M 30 210 13 19.2M 77M 61M 45 270 7 10 310 7 10 310 7 10 310 7 10 310 7					
INTERMOUNTAIN BIG MOUNTAIN, MONT BIG SKY, MONT BRIDGER BOWL, MONT GRAND TARGHEE, WYO JACKSON HOLE 1, WYO PARK WEST, UTAH SCHWEITZER BASIN, ID SNOWBIRD, UTAH SOLITUDE, UTAH SUN VALLEY, IDAHO TETON PASS, WYO 22	47.5 7 2 27.5 12 2 39.0 .09 13 2 36.5 14 2 53.7 .08 12 13 18.5 .04 4 2 37.5 5 12 34.5 .08 14 3 30.0 .06 11 2 18.5 .07 6 19 16.0 .09 4 8	3.65 1.50 7 4 4 3 2 4.44 1.50 13 8 8 3 1 .78 .17 8 4 0 0 0 2.80 1.22 3 6 4 2 1 1.89 .77 2 5 3 1 0 1.31 .40 7 5 3 0 0	57 3 45 49 58 2 42 47 58 2 46 50 35 2 22 26 58 18 40 52 61 3 43 46	25.2 18.1 21.7 32.0 19.1 25.5 27.3 19.5 23.4	16.6 75 46 36 290 1 15.3M 60M 34M 51 250 13 8.5 21 5 64 260 12 65 230 9 14.6M 46M 16M					
WEST COAST ALPINE MEADOWS, CAL ALYESKA, ALASKA CRYSTAL MTN 1, WASH CRYSTAL MTN 2, WASH EAGLECREST, ALASKA HEAVENLY VALLEY, CAL MAMMOTH MTN, CALIF MT. HOOD MDWS, ORE. MT. RAINIER PARADISE SNOQUALMIE PASS 1-90 SQUAW VALLEY, CALIF STEVENS PASS 5E WASH SUGAR BOWL, CALIF	209.0 .05 26 16 35.0 .09 9 8 43.5 .10 11 8 80.8 .10 12 10 19.5 .03 8 19 41.5 13 28 50.4 .17 15 7 96.5 .17 16 8 45.3 .13 13 19 23.1 .08 5 7	4.54 1.20 12 13 8 4 1 12.22 1.60 10 21 18 11 1 .66 .16 19 5 0 0 0 12.66 3.38 6 15 11 6 4 18.61 2.40 12 22 18 12 6 14.05 2.50 12 14 11 11 4 2.26 .60 19 7 6 1 0 24.57 3.98 12 11 11 10 9	34 13 20 29 55 13 34 46 58 21 15 37 33 20 18 25 30 30 5 10 54 19 29 45 92 12 58 80 39 19 14 28 24 30 7 13 58 19 26 49	27.8 18.2 23.0 32.2M 25.1M 28.7M 31.5M 23.0 27.3M 29.4M 25.2M 27.3M 39.0 18.1 28.5 34.5M 16.6M 25.5M 37.0 26.3 31.6 35.5 24.6 30.1 35.8 27.2 31.5 37.2 17.6 27.4 29.9 25.5 27.7	5.0 1 1 17 100 15 115.2 66 38 50 250 21 115.2 66 38 50 250 21 115.2 63 52 58 290 1 110.3 36 25 45 300 1 111.2M 39M 14M					

⁻⁻ DATA INCOMPLETE OR MISSING

M-ONE OR MORE DAYS OF RECORD MISSING-IF AVERAGE VALUE IS ENTERED, LESS THAN 10 DAYS RECORD IS MISSING
1F M 1S ENTERED IN WIND SPEED COLUMN, LESS THAN 37 6-HOUR PERIODS ARE MISSING
GE--GREATER THAN OR EQUAL TO

1991 DECEMBER AVALANCHE SUMMARY

AREA CENTRAL AND SOUTHERN RO	NO.	A V A L S THIS WINTER NO.	F I R	OF L A S	ONE	DATE	NUMB O DA WI A V A L S	F YS	ARTIFOL	YPE OF N A T U R A L -NUMBE	S H A R D	LABS S O F T	WE	L 0 0 5 E	HE IN	INE IGH FE GE 4	TS ET GE 6	GE 200	GE 500	GE 1000	MAX FEET	ROADS	and the second s
ARAPAHOE BASIN, COLO	8	13	3	29	4	3	4	0	1	7	1	5	1	1	3	1	0	8	8	3	1200	0	
ASPEN SNOWMASS, COLO	3	8	15	15	3 1		1	Ö	3	Ö	i	ź	ò	ò	1	ò	Ö	3	ő	ō		0	
ASPEN HIGHLANDS, COL	9	14	5	27	4 1		4	0	2	7	1	3	Ō	5	0	0	0	8	4		1000	Õ	
BERTHOUD PASS, COLO	2	9	3	3	2	3	1	0	1	1	0	2	0	0	1	0	0	2	0	0	325	0	
BRECKENRIDGE, COLO	1	12	2	2	1	2	1	0	1	0	1	0	0	0	1	0	0	0	0	0	150	0	
COPPER MT, COLO	3	17	14	21	2 1	4	2	0	3	0	3	0	0	0	2	1	1	3	Ū	Û	400	0	
CRESTED BUTTE, COLO	2	2	3	3		3	1	0	2	0	1	1	0	0	1	0	0	2	0	0	300	0	
GOTHIC, COLO	13	22	11	23	5 1		5	0	0	13	1	3	0	9	2	-	0	13	9	2	1500	0	
TELLURIDE, COLO	6	6	16	31	2 3		4	0	6	0	0	3	0	3	0	_	0	3	0	0	225	0	
WOLF CREEK, COLO	28	56	2	31	18 1	9	4	0	27	1	8	20	0	0	3	0	0	10	0	0	350	0	
INTERMOUNTAIN																							
BIG MOUNTAIN, MONT	6	6	6	10	4	6	3	0	6	0	4	2	0	0	3	0	0	3	0	0	350	0	
BIG SKY, MONT	24	67	2	8	9	7	5	Ö	24	ő	0	24	0	Ö	7	0	Ö	23	16	ő		0	
BRIDGER BOWL, MONT	72	115	1	20	-		10	Ö	72	Ö	2	70	ŏ	ŏ	5	-	Õ	70	50	-	1600	Ŏ	
GRAND TARGHEE, IDAHO	2	2	12	12	2 1		1	Ö	1	ĭ	1	1	Ö	Õ	ó		ō	1	0	0	200	Ö	
JACKSON HOLE, WYO	23	23	2	31		2	6	Ö	20	3	3	20	ō	ŏ	11	_	ō	23	19	ŏ		Ŏ	
WEST COAST										-													
ALPENTAL, WASH	6	6	19	19	6 1	0	1	0	6	0	0	6	0	0	1	0	0	6	5	1	1300	0	
ALPINE MEADOWS, CAL	23	23	7	19	13 1		3	0	23	0	0	23	0	0	ò	0	0	23	1	Ö		0	
ALYESKA, ALASKA	64	75	ż	30	15 1		8	Õ	55	9	Õ	64	ŏ	ŏ	53	3	ž	63	50	_	20004		
CRYSTAL MIN, WASH	40	53	8	13		8	2	. 0	40	ó	ŏ	40	ŏ	ŏ	0	0	ō	35	11	ő		Ŏ	
KIRKWOOD MDWS, CAL	25	25	8	31		0+	5	Õ	17	8	3	22	ŏ	ŏ	17	1		23	6	ŏ		Ŏ	
MT. HOOD MEADOWS	50	77	3	30	11 1		9	Õ	48	2	4	45	ŏ	1	12	3	-	20	7		1000	Ö	
SQUAW VALLEY, CALIF	26	26	7	29	14 1		4	Õ	26	ō	6	20	ŏ	ò	13	_	Ö	21	6	ò		Ŏ	
STEVENS PASS U.S. 2	4	4	9	9		9	1	ŏ	4	ŏ	ō	4	ŏ	Õ	0	Õ	ŏ	4	4	ō	800	Ŏ	
SUGAR BOWL, CALIF	7	7	é	28		8	4	ŏ	7	ŏ	6	1	ŏ	ŏ	5		1	4	3	ő		Õ	
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^{-- =} DATA INCOMPLETE OR MISSING

GE = GREATER THAN OR EQUAL TO + = ALSO OCCURRED ON OTHER DATES

NOVEMBER 1991 SUMMARY OF WEATHER AND SNOW CONDITIONS

	SNOWFALL WAT						WATER EQUIVALENT							DEPTH		TEM	PERATURE	<u> </u>	WIND SPEED AND DIRECTION						
	TOTAL		MAX IN	D		MAX IN	D		NUME				D			1			AVG	6 H				D	
1	SNOW-		24		TOTAL		Α		OF C			i	Α			MEAN			FOR		100S			Α	
	FALL				WATER											; MAX	MIN	AVG	1		GE		DUR	Ţ	
AREA	IN.	DEN	IN.	. E	IN.	IN.	Ε	.1	.2	.5	1.0	IN.	Ε	IN.	IN.	DI	EGREES I	F	MPH	15	20	MPH	DIR	. E	
CENTRAL AND SOUTHERN I	ROCKY	MOUN	TAIN	IS																					
ARAPAHOE BASIN, COLO	68.2		11	22																					
ASPEN HIGHLANDS, CO	42.4				3.79	.65					0					31.8M	17.6M	_			OM	18	230	27	
BEAR LAKE, RMNP, CO	54.8				4.81	.55					0	30		4		28.1M		22.8M							
BERTHOUD PASS, COLO	95.2				6.83	.98				4		42		12		24.9		15.6	15.6		31	37	310	5	
COPPER MIN, COLO	62.7				4.97					5		33		17											
GOTHIC, COLO	63.0				4.37				8	4	0	38		13		32.0	10.9				••				
MONARCH, COLO	66.9					1.10	2	13	10	5	1	33		12		27.3M	13.7M								
SKI COOPER, COLO	41.0											32					40.7				••				
TELLURIDE, COLO	65.0				/ 45							38		11		30.0M							• -	••	
WINTER PARK 1E, COLO					4.15	.68				_	0	27		-		29.2		19.0	0 (11	5.044		57	320	27	
WINTER PARK S.A., CO WOLF CREEK, COLO	77.6				5.44 6.65	.91 1.60				3 5	0 2	3 8		14		23.5 31.6		16.9 22.8		18M 45M	_		320 		
INTERMOUNTAIN																									
BIG SKY, MONT	53.1		12	13												26.6M	7.5M	17.0M							
BRIDGER BOWL, MONT	56.2				6.55	1.10	26	14	10	6	1	49	29	13		30.3M		23.4M							
SNOWBIRD, UTAH	97.5	.08	17	18	9.28	1.70	18	17	15	7	2	50	Ź2	13	30	31.1M	20.6M	25.9M	18.4M	5 5 M	36M				
TETON PASS, WYO 22	57.5	.10	10	27	5.56	.99	26	13	11	3	0	33	2 8	7	15	25.8M	16.9M	21.4M							
WEST COAST																									
ALPINE MEADOWS, CAL	23.5	.18	14	18	5.29	2.67	18	6	6	3	1	18	18	0	9	44.7	30.5	37.6	25.3	97	77	75	230	17	
ALYESKA, ALASKA	38.5	.07	6	23	6.03	1.38	5	12	9	3	2	33	30	4	13	32.9	24.9	28.9	3.9	0	0	17	260	27	
CRYSTAL MTN 1, WASH	49.7	.10	13	21	10.62	1.82	20	19	14	5	2	26	29	0	9	35.0	26.9	31.0	13.6	46	30	45	240	17	
MT. RAINIER PARADISE	109.0	.12	17	27	26.87	3.55	5	23	20	17	9	65	29	4	27	35.8	25.5	30.6	8.3M	14M	7M		••		
MT. HOOD MDWS, ORE.	40.2	.14	20	21	14.64			9	8	8	7												• •	• -	
SQUAW VALLEY, CALIF	13.2		_		3.71			6	6	2	1	13	2	0		46.2	25.2					••			
STEVENS PASS SE WASH	73.0	.30	24	21	24.72	5.60	21	13	12	10	7					35.4M	28.8M	32.1M							

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NOVEMBER 1991 AVALANCHE SUMMARY

	TOTAL A V	TOTAL A V		ES OF		DA	BER OF AYS ITH		YPE OF		AVAL	ANC	HE	HE	ACT INE IGH FE	TS	VER		L DE	SCENT	
	; V	A	,		1	Α	s	R	N A	S	LABS	:									
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•	. s	S	F		MAX	Α	U	I	U	Н	S		0								ACROSS
		į	I	L	IN D	L	F	F	R	Α		W	0								MAJOR
	THIS	THIS	R		ONE A	S	F	! C	Α	R	F	Ε		GE			GE		GE	MAX	ACCESS
	,	WINTER	1	S			S	L	L	D	T	T	Ε		4		•		1000		ROADS
AREA	NO.	NO.	įT	Τ.	NO. E				- NUMBE	R				-NU	MBE	R-	N	UMBE	R	FEET.	NO.
CENTRAL AND SOUTHERN ROC	KY MOUNT	PAINS																			
ARAPAHOE BASIN, COLO	5	5	18	27	2 18	4	0	2	3	0	4	1	0	0	0	0	4	3	1	1000	0
ASPEN SNOWMASS, COLO	5	5	13	28	4 28	2	0	5	0	5	0	0	0	5	3	1	5	0	0	430	0
ASPEN HIGHLANDS, COL	5	5	11	29	1 29+		0	4	1	1	3	0	1	0	0	0	2	0	0	350	0
BERTHOUD PASS, COLO	7	7	8	27	3 27+		0	0	7	0	7	0	0	1	0	0	6	1	0	500	0
BRECKENRIDGE, COLO	11	11	17	24	5 24	3	0	10	1	3	8	0	0	9	0	0	6	1	0	500	0
COPPER MT, COLO	14	14	11	28	9 27	4	0	14	0	0	14	0	0	13	2	0	13	4	0	600	0
GOTHIC, COLO	9	9	2	28	6 18	3	0	0	9	0	3	0	6	2	1	0	9	7	2		0
SKI COOPER, COLO	1	1	11	11	1 11	1	0	0	1	1	0	0	0	1	1	1	1	1	0	500	0
STEAMBOAT SPRNGS, CO	2	2	20	20	2 20	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
VAIL, COLO	2	2	25	26	1 26+	2	0	2	0	1	1	0	0	2	0	0	1	1	0	600	0
WOLF CREEK, COLO	28	28	14	30	23 15	4	0	28	0	1	27	0	0	5	0	0	7	0	0	325	0
INTERMOUNTAIN									•												
BIG SKY, MONT	43	43	14	29	11 25+	7	0	33	10	2	38	0	3	8	0	0	41	24	0	900	0
BRIDGER BOWL, MONT	43	43	20	30	18 29	6	Ŏ	43	Ö	3	40		ō	8	Õ		40	27	_	1400	Ö
SOLITUDE, UTAH	10	10	22	22	10 22	1	0	10	0	0	8	2	0	0	0	0	7	1	0	500	0
TETON PASS, WYO 22	4	4	27	28	3 28	2	0	3	1	0	4	0	0	3	0	0	4	1	1	1700	1
WEST COAST																					
ALYESKA, ALASKA	11	11	5	30	4 26	5	0	7	4	0	7	2	2	7	0	0	11	8	4	1500	0
CRYSTAL MTN, WASH	13	13	25	29	8 29	2	Ō	13	0	1	12	0	0	Ó	0	0	13	7	0	750	Ō
MT. HOOD MEADOWS	27	27	21	29	12 27+		0	27	0	1	26	0	0	2	0	0	12	6	0	550	0

⁻⁻⁼DATA INCOMPLETE OR MISSING GE=GREATER THAN OR EQUAL TO +=ALSO OCCURRED ON OTHER DATES